Effect of Psycho Education Intervention on Adherence of Treatment Among Pulmonary Tuberculosis Patients at Selected DOTS Centre of Vijayapura

Mr. Wahedkhan Pathan*, Mr. Nazeersab Balagar**

* 4th Year Basic B.Sc. (N), BLDEA's Shri B M Patil Institute of Nursing Sciences, Vijayapur-Karnataka

** Asst Prof/HOD Department of Mental Health Nursing, BLDEA's Shri B M Patil Institute of Nursing Sciences, Vijayapura Karnataka.

DOI: 10.29322/IJSRP.15.06.2025.p16234
https://dx.doi.org/10.29322/IJSRP.15.06.2025.p16234

Paper Received Date: 15th April 2025
Paper Acceptance Date: 16th June 2025
Paper Publication Date: 28th June 2025

Abstract

Background

Tuberculosis (TB) is a contagious bacterial infection caused by *Mycobacterium tuberculosis*, primarily affecting the lungs but capable of spreading to other organs. It spreads through airborne droplets when an infected person coughs, sneezes, or speaks. Common symptoms include persistent cough, fever, night sweats, weight loss, and fatigue. TB can be latent (inactive, without symptoms) or active (with symptoms and contagious). It is a major global health issue, particularly in low- and middle-income countries. Effective treatment typically involves a combination of antibiotics taken over several months, and early detection and adherence to therapy are crucial for controlling the disease and preventing drug resistance.

OBJECTIVES OF STUDY

1. To Assess the adherence of Treatment among tuberculosis patients
2. To assess the effect of psycho education Interventional on Adherence of Treatment of tuberculosis patients
3. To find out association between Adherence of Treatment with selected socio demographic Variables

Methodology

The study conducted by using Quantitative approach with Pre Experimental- One Group Pre and Post Test Research design, and a non-randomized purposive sampling technique. 50 Tuberculosis Patients were given the MMAS-8 Morisky Medication Adherence Scale, along with inclusion and exclusion criteria, in order to gather data from respondents. The tool had 08 items that assessed Patients Medication Adherence. Both descriptive and inferential statistics were used to describe the outcomes.

Results

Based on the study's findings, assessment of the **pretest adherence level** to treatment among tuberculosis patients. Out of the 50 patients assessed before any intervention, the majority—**41 patients (82%)**—showed a **low level of adherence** to their TB treatment. Only **7 patients (14%)** had a **medium adherence level**, and a mere **2 patients (4%)** demonstrated **high adherence**. **post-test adherence level** to treatment among tuberculosis patients. After the intervention, a significant improvement in adherence was observed. The majority of patients—**37 out of 50 (74%)**—achieved a **high level of adherence**, indicating a positive shift in treatment compliance. Only **9 patients (18%)** continued to show **low adherence**, while **4 patients (8%)** had a **medium adherence level**. Compared to the pretest data, where 82% had low adherence, this post-test result reflects the effectiveness of the intervention in enhancing patients' commitment to their TB treatment regimen. The **mean pre-test score** of adherence was **3.9**, which increased to **7.16** in the **post-test**, indicating a **mean difference** of **3.26 points**. This change reflects a substantial **83.5% improvement in adherence** levels following the intervention.

Interpretation and Conclusion

The **mean pre-test score** of adherence was **3.9**, which increased to **7.16** in the **post-test**, indicating a **mean difference** of **3.26 points**. This change reflects a substantial **83.5% improvement in adherence** levels following the Psycho education Intervention.

Key Words: Psycho education, Adherence, Tuberculosis Patients and DOTs Centre.

I. INTRODUCTION

Tuberculosis (TB) is a contagious and potentially serious infectious disease caused by the bacterium *Mycobacterium tuberculosis*. It primarily affects the lungs (pulmonary TB) but can also spread to other parts of the body, such as the kidneys, spine, and brain (extrapulmonary TB). TB spreads through the air when a person with active pulmonary TB coughs, sneezes, or talks. Common symptoms include a persistent cough lasting more than two weeks, chest pain, coughing up blood, fever, night sweats, fatigue, and weight loss. Despite being preventable and treatable, TB remains a major global health challenge, particularly in low- and middle-income countries. Diagnosis typically involves a skin test, blood test, chest X-ray, or sputum analysis. Treatment requires a long course (usually 6 months) of multiple antibiotics, such as isoniazid and rifampicin. Drug-resistant TB is an increasing concern and demands more complex and extended treatment. Vaccination with the Bacillus Calmette-Guérin (BCG) vaccine helps prevent severe forms of TB in children. Effective TB control relies on early detection, proper treatment, and public health measures to stop transmission.

II.OBJECTIVES

1. To Assess the adherence of Treatment among tuberculosis patients
2. To assess the effect of psycho education Interventional on Adherence of Treatment of tuberculosis patients
3. To find out association between Adherence of Treatment with selected socio demographic Variables

RESEARCH HYPOTHESIS

The following hypothesis will be tested at 0.05 level of significance.

H_1: There is a significant difference between pretest and posttest adherence to treatment scores

H_2: There is a significant association between the pretest adherence to treatment scores and selected demographic variables

Assumptions

1. Psycho education Intervention May improve the adherence of treatment among pulmonary tuberculosis patients
2. Psycho education Intervention May improve the coping capacities pulmonary tuberculosis patients

Delimitations

The Study will be delimited to;

The study is delimited to Tuberculosis patients of Selected DOTs Centres

III.MATERIALS AND METHODS

Research Approach

Quantitative research approach was used for this study.

Research Design

Pre Experimental- One Group Pre and Post Test

Variable:

Independent Variable- Psycho education Intervention

Dependent Variable- Treatment Adherence

Demographic variables- like age, Gender, Marital Status, Area of living, Religion, Education, Employement Status, Current Smoking and TB Treatment History.

Inclusion Criteria: Pulmonary Tuberculosis Patients with

1. Age group between 18-60 years

2. Willing to participate

3. No hearing and psychiatric disorders

4. Poor adherence to treatment

Exclusion criteria: Pulmonary Tuberculosis Patients with

1. Psychiatric disorders
2. Patients suffering with any other co morbid illness.

Setting of the study

Selected DOTs Centers of Vijayapur city.

Study Population

Tuberculosis Patients of selected DOTs Centres of Vijayapur city.

Sampling Technique

The non randomized purposive sampling technique used for this study

Sample size

50 Patients with Pulmonary Tuberculosis

DESCRIPTION OF THE INSTRUMENTS

The tool for collecting data from study participants consisted of Two parts:

Part I: Structured questionnaire for socio-demographic al variables

Part II: MMAS-8 Morisky Medication Adherence Scale

DATA ANALYSIS

Data will be analyzed by using descriptive and inferential statistics.

1. The data obtained was planned to be analyzed on the basis of the objectives and assumptions of the study by using descriptive and inferential statistics.
2. Frequency and percentage distribution were used to study the demographic variables.
3. Mean & standard deviation were used to assess the Treatment Adherence
4. Chi- square test was used to find the association between Treatment Adherence with their selected sociodemographic variables.

IV.RESULTS AND DISCUSSION

1- Demographic variables of respondents

Age

Out of a total of 50 patients, the majority (42%) belonged to the age group of 28–38 years, indicating that this age group is the most affected by tuberculosis. This was followed by the 18–28 years age group, which accounted for 28% of the cases, showing that a significant number of younger adults are also impacted. The 38–48 years group comprised 16% of the patients, while the least number of cases (14%) were observed in the 48–58 years group.

Gender

Among the 50 patients included in the study, a majority of 33 (66%) were males, while 17 (34%) were females. This indicates that tuberculosis was more prevalent among males compared to females in the study population

Marital Status

Out of the total 50 patients, a significant majority of 41 (82%) were married, while only 9 (18%) were single. This indicates that tuberculosis was more commonly found among married individuals in the study population.

Place of living

Among the 50 patients, the majority—35 individuals (70%)—were from rural areas, while only 15 patients (30%) belonged to urban settings. This indicates a higher prevalence of tuberculosis among the rural population in the study.

Religion

Out of the total 50 patients, the majority—33 (66%)—were Hindus, followed by 9 patients (18%) belonging to other religions, and 8 patients (16%) who identified as Muslims. This distribution reflects the religious composition of the study population and does not necessarily indicate any direct correlation between religion and the occurrence of tuberculosis.

Educational Status

Among the 50 patients, the highest proportion—16 individuals (32%)—had education up to degree level or above. This was followed by 15 patients (30%) each who had studied up to the 10th standard and pre-university level, while only 4 patients (8%) had no formal education

Current Smoking Status

Among the 50 patients, a significant majority—33 individuals (66%)—were smokers, while 17 patients (34%) were non-smokers.

Treatment of TB History

Out of the total 50 patients, 31 (62%) were newly diagnosed cases of tuberculosis, while 19 (38%) had a history of previous TB treatment.

II. Assessment of the pretest adherence level of Treatment among tuberculosis patients

SINO	Adherence level	Frequency	Percentage
1	High	02	4.0
2	Low	41	82.0
3	Medium	7	14.0
	Total	50	100.0

Out of the 50 patients assessed before any intervention, the majority—**41 patients (82%)**—showed a **low level of adherence** to their TB treatment. Only **7 patients (14%)** had a **medium adherence level**, and a mere **2 patients (4%)** demonstrated **high adherence**.

III. Assessment of the post test adherence level of Treatment among tuberculosis patients

SINO	Adherence level	Frequency	Percentage
1	High	37	74.0
2	Low	9	18.0
3	Medium	4	8.0
	Total	50	100.0

The majority of patients—**37 out of 50 (74%)**—achieved a **high level of adherence**, indicating a positive shift in treatment compliance. Only **9 patients (18%)** continued to show **low adherence**, while **4 patients (8%)** had a **medium adherence level**.

IV. Comparison of Pre test and post test adherence level of Treatment among tuberculosis patients

SINO	Adherence level	Pre-Test		Post-Test	
		N	%	N	%
1	High	02	4.0	37	74.0
2	Low	41	82.0	9	18.0
3	Medium	7	14.0	4	8.0
	Total	52	100.0	52	100.0

Table represents a comparison of **pre-test and post-test adherence levels** to treatment among tuberculosis patients. The data reveals a significant improvement in treatment adherence following the intervention. Before the intervention (pre-test), only **2 patients (4.0%)** had a **high level of adherence**, while a large majority—**41 patients (82.0%)**—showed **low adherence**, and **7 patients (14.0%)** had **medium adherence**. In contrast, after the intervention (post-test), **37 patients (74.0%)** achieved a **high level of adherence**, indicating a substantial positive change. Meanwhile, the number of patients with **low adherence** decreased dramatically to **9 (18.0%)**, and **medium adherence** slightly declined to **4 (8.0%)**.

These findings clearly demonstrate the effectiveness of the intervention in improving treatment adherence among tuberculosis patients. The shift from predominantly low adherence in the pre-test to high adherence in the post-test suggests that targeted Psycho Education Intervention was effective.

V. Assessment of the effect of psycho education Interventional on Adherence of Treatment of tuberculosis patients

Adherence	Mean	N	SD	Difference	t-value	df	p-value
Pre-test	3.90	50	1.58	3.26	15.7	49	< 0.0001(S)
Post-Test	7.16	50	1.63				

Table represents the effectiveness of the **intervention** on enhancing adherence level TB patients . The **mean adhence score** in the **pre-test** was **3.90** (SD = 1.58), which significantly increased to **7.16** (SD = 1.63) in the **post-test** following the intervention. The **mean difference** in adherence scores was **3.26**, and the **t-test value** was **15.7**, with a **highly significant p-value (< 0.0001)**. This indicates a **statistically significant increase in adherence** after implementing the psycho education Intervention. These findings strongly support the effectiveness of the psycho education Intervention was highly effective.

VI. Association between Adherence of Treatment with selected socio demographic Variables

The association between treatment adherence and selected socio-demographic variables among tuberculosis patients. The analysis was carried out using the chi-square test. The results indicate that most socio-demographic variables such as age, gender, marital status, place of residence, religion, educational status, employment status, and current smoking habits did not show any statistically significant association with adherence levels ($p > 0.05$). This suggests that these factors do not have a notable influence on whether patients adhere to their treatment regimen. However, a significant association was found between adherence and the history of TB treatment ($\chi^2 = 3.81$, $df = 1$, $p = 0.049$). Patients who were newly diagnosed with TB demonstrated significantly better adherence to treatment compared to those who had been previously treated. This finding highlights the importance of focusing on previously treated patients for adherence support, as they may be at higher risk for non-adherence.

V.CONCLUSION

Psycho education plays a vital role in improving adherence to tuberculosis treatment by enhancing patients' understanding of the disease, its transmission, and the importance of completing the full course of medication. Many individuals discontinue treatment once symptoms improve, not realizing that incomplete treatment can lead to drug resistance, relapse, or ongoing transmission. Educating patients helps dispel myths and misconceptions, reduces stigma, and promotes a sense of responsibility in managing their health and protecting others.Additionally, psycho education addresses the emotional and psychological challenges associated with TB, such as anxiety, depression, and social isolation. By providing support and clear communication about the treatment process, side effects, and coping strategies, it empowers patients and families to actively participate in the care process. Ultimately, this improves treatment outcomes, reduces the public health burden, and supports global TB control efforts.

VI.ACKNOWLEDGEMENT

We thank Rajiv Gandhi University of Health Sciences-Bangalore for providing funding for this research project. We would like to express our deepest appreciation to the Medical Officer of PHC for creating a suitable atmosphere for successful completion of studies. Also, we would like to express our deepest appreciation to our beloved Principal and the Mental Health Nursing Department, as well as the teaching and non-teaching staffs, for their unwavering support and direction in completing the study work.

CONFLICT OF INTEREST- None declared

ETHICALCLEARENCE- Ethical Clearance Certificate was obtained from Institutional Ethical Committee**.**

VII. REFERENCES

1. Iweama CN, Agbaje OS, Umoke PCI, Igbokwe CC, Ozoemena EL, Omaka-Amari NL, et al. Nonadherence to tuberculosis treatment and associated factors among patients using directly observed treatment short-course in north-west Nigeria: A cross-sectional study. SAGE Open Med. 2021;9: 1–15. pmid:33614034
2. World Health Organization. Tuberculosis 2021 [cited 2022 September 22]. Available from: https://www.who.int/news-room/fact-sheets/detail/tuberculosis.
3. World Health Organization. Global tuberculosis report 2021 [cited 2022 September 22]. Available from: https://www.who.int/publications/digital/global-tuberculosis-report-2021/tb-disease-burden/incidence.
4. ola HH, Holakouie-Naieni K, Tesfaye E, Mansournia MA, Yaseri, M. Prevalence of tuberculosis treatment non-adherence in Ethiopia: A systematic review and meta-analysis. Int J Tuberc Lung Dis. 2019;6:741–749. https://doi.org/10.5588/ijtld.18.0672.
5. Fang XH, Shen HH, Hu WQ, Xu QQ, Jun L, Zhang ZP, et al. Prevalence of and factors influencing anti-tuberculosis treatment non-adherence among patients with pulmonary tuberculosis: A cross-sectional study in Anhui Province, Eastern China. Med Sci Monit. 2019;25:1928–1935. pmid:30869079
6. World Health Organization. What is dots? A guide to understanding the WHO-recommended TB control strategy known as DOTS. 1999 [cited 2017 June 2]. Available from: https://apps.who.int/iris/bitstream/handle/10665/65979/WHO_CDS_CPC_TB_99.270.pdf;sequence=1